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Deborah J. Brown

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How Indiana Counties Weathered the 1973-1977 Economic Cycle

Deborah J. Brown
Department of Agricultural Economics

The increasing concern with a recession in the United States economy makes one wonder how well Indiana and its individual counties might fare in such a recession.

This report examines how Indiana counties performed during the recession of 1973-1975 and the recovery of 1975-1977. There is, of course, no guarantee that a future business cycle would follow the same pattern as the 1973-1977 cycle, which contained the longest and costliest recession since World War II.

One could divide the 1973-1975 recession into two stages. In the first stage, between the third quarter of 1973 and the second quarter of 1974, there were declines in residential construction and consumer spending. During the second stage, from the second half of 1974 to the first quarter of 1975, there were cuts in business investment—particularly inventories—and further declines in residential construction and consumer spending.

A recession hits money income, employment, output of goods, asset and common stock prices, profits, and wealth. The biggest fluctuations typically occur in unemployment and business net income. This report focuses on personal income. Personal income includes wages and salaries, transfer payments, rental income, dividends and interest. It is measured before the deduction of income taxes, but after Social Security deductions. It is therefore a moderately good indicator of the economic health of an area's residents.

The Bureau of Economic Analysis of the U.S. Department of Commerce publishes annual estimates of personal income by major sources and of per capita county personal income in the *Survey of Current Business*. The figures—from which these calculations were made—are not adjusted for inflation. Therefore, for comparison, the Consumer Price Index (CPI) is given at the bottom of Table 1 and the annual percentage increase in the Consumer Price Index is given at the foot of Table 2.

Sources and Trends in Indiana Personal Income 1973-1975 and 1975-1977

In 1973, at the beginning of the downturn, Indiana per capita personal income was 99.1% of the U.S. average. After two recession years, Indiana personal income had fallen to 96.5% of the U.S. average, and in 1977, after two years of recovery, it was still only 98.5% of the U.S. average. This indicates that Indiana was hit relatively harder by the 1973-75 recession than was much of the rest of the U.S.

Comparing dollar figures on personal income for different years is not very revealing when inflation is changing the value of the dollar. The Consumer Price Index (CPI) attempts to measure how the price paid for a typical bundle of goods changes. One can compare dollar figures in different years by dividing each year's price by that year's CPI. This is called deflating the figures. The purpose of deflating dollar figures is to allow comparison of the real purchasing power of money at different times when prices are changing. If one deflates personal

income by the Consumer Price Index, average Indiana 1977 boom period personal income per capita was \$5,152 compared to an average Indiana 1973 recession period personal income per capita of \$5,041.

The effect of a business cycle on different regions depends in part on the regions' different sources of income. In Indiana only four personal income sources grew faster than the Consumer Price Index in the 1973-74 slump. These were: mining; wholesale trade; dividends, interest and rent, and transfer payments. Compared with the rest of the country in 1973, a smaller percentage of Indiana's personal income came from these good performance sources.

Table 1 shows the changing composition of Indiana and U.S. personal income over the 1973-77 business cycle. Table 2 shows the yearly percentage change of each source for 1973-77. Manufacturing fared poorly as a source of personal income during the 1973-75 recession. Indiana residents in 1973 got 34.3% of their personal income from manufacturing, significantly larger than the U.S. average of 21%. Moreover, in 1973, Indiana residents received 26.5% of their personal income from durable good manufacturing, more than twice the national average. Income from durable goods industries typically declines very rapidly at the start of a recession, then recovers very rapidly during the recovery period.

One reason for this pattern is the effect that inventories play during a business cycle. Sales of goods consist of two parts, an amount to satisfy today's customers and an amount to adjust inventories. Inventories are influenced by price expectations, the interest rate, perishability and, most importantly, by sales. When sales drop, companies generally want their inventories to drop also—so their orders to manufacturers drop, not only by the decrease in sales to current customers but also by the amount they wish to decrease their inventories. When sales increase, firms generally want their inventories to increase also, so their orders to manufacturers go up by more than the increase in sales to current customers. An industry affected by such inventory acceleration—such as many manufacturing and especially the durable goods industries—therefore, swings down faster at the beginning of a recession and swings up more quickly at the beginning of a recovery.

Indiana residents also received a larger than average amount of their 1973 personal income from farming, 4.8% versus a national average of 3.4%. Indiana farm personal income declined appreciably at the beginning of the 1973-75 recession, but one must remember that this 1973-74 percentage decline is based on comparison with the exceptionally good 1973 receipts.

In the 1975-77 recovery, all Indiana sources of personal income—except farm income, transfer income in 1975, and agricultural services in 1976—had a faster rate of increase than the Consumer Price Index. Mining, construction and manufacturing personal income increased particularly quickly during both 1975-76 and 1976-77. Durable goods personal income spurted 18.2% during 1975. Services increased rapidly during the first year of the recovery, less rapidly but still considerably faster than the Consumer Price Index in the second year.

Table 1. The Changing Composition of Personal Income*

Source	As a % of Total Personal Income 1973		As a % of Total Personal Income 1977	
	U. S.	Indiana	U. S.	Indiana
Mining	.8	.3	1.1	.5
Ag services, forestry, fishing & others	.3	.1	.3	.1
Farm	3.3	4.6	1.7	2.2
Construction	4.9	4.5	4.4	4.4
Manufacturing:				
Durables	12.9	26.5	12.4	25.4
Non-durables	7.3	6.6	7.0	6.4
Transportation & public utilities	5.7	5.1	5.5	5.1
Wholesale	4.6	3.7	4.8	4.2
Retail	8.0	7.7	7.5	7.3
Finance, insurance & real estate	3.4	3.1	4.1	3.3
Services	11.7	8.5	12.2	9.0
Government	13.3	9.2	12.6	9.0
Dividends, interest & rent	12.3	11.0	13.1	12.5
Transfer payments	10.9	9.0	13.2	10.7
<i>For comparison</i>				
Total personal income (millions of dollars)	1,087,283	26,918	1,579,377	38,286
Consumer Price Index (1967 = 100)	133.1		181.5	

Source: *Survey of Current Business*, U.S. Department of Commerce, October 1978, p. 32 and p. 35, and August 1977, p. 18 and p. 21.
 *These calculations do not include the residence adjustment nor the personal contributions for social insurance by place of work adjustment since these data are not given by industry.

Table 2. Annual Percent Change of Personal Income in Indiana by Source of Income 1973-77*

	Annual % Change			
	1973-74	1974-75	1975-76	1976-77
Mining	34.1	16.4	27.9	14.0
Agricultural services				
forestry, fishery, other	8.3	- 2.8	14.6	6.4
Farm	-42.7	56.7	- 5.9	-21.5
Construction	6.7	- 2.6	11.8	20.8
Manufacturing:	5.6	3.1	16.8	14.3
(Durable goods)	(5.1)	-(4.3)	(18.2)	(14.9)
(Non-durable goods)	(7.4)	(1.7)	(11.6)	(11.9)
Transportation & public utilities	8.0	2.7	13.6	11.7
Wholesale trade	17.1	13.4	9.4	10.2
Retail trade	7.0	2.9	10.0	11.1
Finance, insurance & real estate	6.9	5.8	15.9	12.1
Services	10.4	9.4	11.0	12.4
Government	6.6	9.4	9.3	8.3
Dividends, interest & rent	17.5	8.7	11.8	11.5
Transfer payments	17.9	25.1	5.5	7.6
Total personal income	6.7	6.8	11.6	10.9
Per capita personal income	6.4	6.8	11.7	10.6
Consumer Price Index	11.0	9.1	5.8	6.5

*Calculations based on *Survey of Current Business*, U.S. Department of Commerce, August 1977, p. 21, and October 1978, p. 35. Total personal income and per capita personal income have been adjusted for residence and for social insurance payments; the other figures have not. The percent change in an income source calculated as:

$$\frac{\text{income from this source this year} - \text{income from this source last year}}{\text{income from this source last year}}$$

Performance of Indiana Counties: 1973-75 Recession

Table 5 shows how personal income changed in individual Indiana counties during the 1973-75 recession and the 1975-77 recovery. During the 1973-75 recession, U.S. per capita personal income increased 16.3% while the Consumer Price Index increased 21.1%.

Table 3 shows that, in Indiana, only Clay, Spencer, Pike, Vigo, and Warrick counties experienced a personal income per capita growth rate greater than 21.1%.

When looking at a growth rate one must consider the base on which the increase occurs. A \$500 increase in personal income is a much bigger percentage of \$3,500 than it is of \$5,000. Of the five Indiana counties whose personal income grew at a faster rate than the Consumer Price Index during the 1973-75 recession, all but one (Pike) had 1973 personal income bases considerably below both the U.S. average and the Indiana average.

Performance of Indiana Counties: 1975-77 Recovery

The effect of a business cycle depends not only on how far and fast personal income may fall during the recession, but on how quickly personal income increases during the recovery.

During the 1975-77 recovery U.S. per capita personal income increased 19.9% while the Consumer Price Index increased only 12.6%. Indiana per capita personal income increased at a rate of 22.4% in 1975-77, faster than the U.S. average. Most Indiana counties' per capita personal income grew at a faster rate than the Consumer Price Index during the 1975-77 recovery. Of the 18 counties whose personal incomes did not outperform the Consumer Price Index (shown in Table 4), all but 10 had unusually large personal income growth rates during the recession, making their lackluster performance during the recovery of less concern. Benton, Carroll, and White counties, although not growing faster than the CPI during the recovery, still had personal incomes higher than either the U.S. or the Indiana average.

Conclusion

Table 5 shows that between 1973 and 1977, 13 Indiana counties had fallen 15 or more places in their state per capita personal income ranking.¹ These counties tend to cluster geographically in two areas: the southeast and the northwest (excluding Lake County). They also tended to have a higher percentage of their land in farm acreage than those Indiana counties which raised their personal income rankings by 15 or more places.

Twelve Indiana counties improved their personal income rankings by 15 or more places between 1973 and 1977.² These counties tended to cluster around Evansville, Terre Haute, Indianapolis and Gary.

There is no guarantee that a future business cycle will parallel the 1973-77 cycle. In general, however, counties with a large proportion of their personal income arising from construction and manufacturing, especially durable goods, can expect to face wider swings in personal income than counties obtaining more of their personal income from the less cyclical sources: government, services, dividends, interest and rent, and the counter-cyclical transfer payments.

1. These were Carroll, Dearborn, Decatur, Fayette, Fulton, Jasper, LaGrange, Miami, Newton, Pulaski, Rush, Union, and Warren counties.

2. These were Lake, Porter, Vigo, Clay, Hendricks, Hancock, Morgan, Johnson, Pike, Vanderburgh, Warrick and Spencer counties.

Table 3. Indiana Counties Whose Personal Income Growth Outperformed the Consumer Price Index During the 1973-75 Recession

	Per Capita Personal Income 1973 (\$)
U.S. average	5,041
Indiana average	4,998
Clay	4,094
Pike	5,369
Spencer	3,968
Vigo	4,247
Warrick	4,324

Table 4. Indiana Counties Whose Personal Income Growth Did Not Outperform the Consumer Price Index During the 1975-77 Recovery

	Per Capita Personal Income 1977 (\$)
U.S. average	7,026
Indiana average	6,922
Benton*	7,536
Blackford*	6,087
Carroll	7,150
Daviess*	5,596
Harrison*	5,299
Jasper	5,739
Miami	6,248
Newton	5,404
Ohio	5,268
Owen	4,635
Parke*	5,427
Pulaski	6,869
Rush	5,859
Starke*	5,078
Steuben	6,084
Union	6,119
Warren*	6,511
White*	7,368

*Counties marked with asterisks had unusually large personal income growth rates during the preceding 1973-75 recession, making their lackluster performance during the recovery less significant.



Table 5. Changes in Indiana Personal Income by County 1973-75 and 1975-77.

	Per Capita Income 1973	Rank in State 1973	Percentage Change in Per Capita Personal Income		Per Capita Income 1977	Rank in State 1977
			1973-75	1975-77		
U.S.	5,041		16.3	19.2	7,026	
Indiana	4,998		13.2	22.4	6,922	
Adams	5,240	26	3.7	30.3	7,077	21
Allen	5,247	24	14.6	25.1	7,526	10
Bartholomew	5,574	14	9.9	27.0	7,777	4
Benton	7,108	1	13.3	- 6.4	7,536	9
Blackford	4,820	48	6.5	18.6	6,087	61
Boone	5,263	22	16.8	12.5	6,918	28
Brown	3,936	82	18.1	18.1	5,492	74
Carroll	5,923	3	11.5	8.2	7,150	18
Cass	5,518	16	11.7	21.3	7,474	12
Clark	4,723	56	10.0	14.0	5,920	66
Clay	4,094	77	21.2	26.4	6,274	55
Clinton	5,607	12	12.2	16.2	7,310	15
Crawford	3,259	92	12.0	19.8	4,370	92
Daviess	4,521	65	13.6	9.0	5,596	73
Dearborn	4,796	52	4.1	14.0	5,688	71
Decatur	5,012	36	8.1	16.3	6,301	53
DeKalb	5,183	30	9.5	23.7	7,017	24
Delaware	4,428	67	16.2	18.5	6,098	60
Dubois	4,698	58	10.7	23.4	6,421	47
Elkhart	5,616	11	3.2	30.3	7,551	8
Fayette	5,321	21	0	21.3	6,454	45
Floyd	4,644	60	19.5	13.3	6,288	54
Fountain	5,169	31	7.9	16.4	6,490	43
Franklin	3,827	84	7.3	15.6	4,746	90
Fulton	5,607	13	- 0.4	18.8	6,636	35
Gibson	4,987	38	16.9	16.4	6,787	32
Grant	4,945	42	7.1	25.7	6,659	34
Greene	4,014	78	14.8	16.3	5,362	77
Hamilton	5,495	17	17.4	18.4	7,640	6
Hancock	5,006	37	7.7	33.7	7,203	17
Harrison	3,953	81	19.6	12.1	5,299	78

Table 5. Changes in Indiana Personal Income by County 1973-75 and 1975-77.

	Per Capita Income 1973	Rank in State 1973	Percentage Change in Per Capita Personal Income		Per Capita Income 1977	Rank in State 1977
			1973-75	1975-77		
Hendricks	4,797	51	14.5	29.3	7,101	20
Henry	5,246	25	4.1	25.0	6,829	31
Howard	6,120	2	4.0	26.2	8,033	2
Huntington	5,041	33	14.0	22.5	7,037	23
Jackson	4,760	54	7.1	26.3	6,437	46
Jasper	5,628	10	9.1	- 6.5	5,739	70
Jay	4,912	46	7.1	18.4	6,229	57
Jefferson	4,102	76	13.5	27.9	5,958	65
Jennings	3,684	89	13.3	25.0	5,216	81
Johnson	4,598	62	14.9	23.5	6,526	39
Knox	4,623	61	15.7	18.0	6,313	51
Kosciusko	5,214	29	7.1	24.3	6,941	26
LaGrange	4,773	53	- 4.2	13.9	5,207	83
Lake	4,810	49	16.0	30.8	7,300	16
LaPorte	5,016	35	17.3	17.7	6,923	27
Lawrence	4,327	69	13.8	20.0	5,909	67
Madison	5,060	32	11.2	24.3	6,994	25
Marion	5,564	15	15.7	22.0	7,854	3
Marshall	4,973	40	9.8	22.0	6,661	33
Martin	3,781	86	8.1	20.8	4,936	86
Miami	5,259	23	9.3	8.7	6,248	56
Monroe	3,784	85	11.3	23.7	5,213	82
Montgomery	5,382	19	10.5	14.9	6,833	30
Morgan	4,236	75	12.9	36.9	6,546	38
Newton	5,743	9	2.3	- 8.0	5,404	76
Noble	4,913	45	6.2	23.0	6,417	48
Ohio	4,289	72	9.5	12.2	5,268	80
Orange	3,614	90	18.8	13.6	4,879	89
Owen	3,878	83	11.9	6.8	4,635	91
Parke	4,306	71	13.4	11.1	5,427	75
Perry	3,602	91	11.6	31.6	5,287	79
Pike	5,369	20	31.3	17.5	8,286	1
Porter	5,225	27	16.3	27.8	7,768	5
Posey	4,805	50	17.3	15.2	6,493	42
Pulaski	5,775	8	12.1	6.1	6,869	29
Putnam	4,377	68	13.7	17.1	5,827	69

Table 5. Changes in Indiana Personal Income by County 1973-75 and 1975-77.

	Per Capita Income 1973	Rank in State 1973	Percentage Change in Per Capita Personal Income		Per Capita Income 1977	Rank in State 1977
			1973-75	1975-77		
Randolph	4,943	44	11.0	18.5	6,504	41
Ripley	4,539	64	10.1	21.8	6,083	64
Rush	4,943	43	6.6	11.2	5,859	68
St. Joseph	5,024	34	15.5	22.6	7,116	19
Scott	3,704	88	14.1	15.6	4,882	88
Shelby	4,908	47	13.2	18.7	6,590	37
Spencer	3,968	80	24.3	23.4	6,085	62
Starke	4,249	73	17.1	2.1	5,078	85
Steuben	4,709	57	1.2	6.5	6,084	63
Sullivan	4,594	63	13.0	19.0	6,177	58
Switzerland	3,778	87	9.9	24.2	5,158	84
Tippecanoe	4,683	59	14.1	19.0	6,355	50
Tipton	5,880	4	6.9	17.2	7,367	13
Union	5,810	6	- 3.5	9.2	6,119	59
Vanderburgh	4,984	39	18.0	28.6	7,564	7
Vermillion	4,454	66	11.8	13.1	5,635	72
Vigo	4,247	74	21.3	23.7	6,372	49
Wabash	4,971	41	7.6	21.0	6,471	44
Warren	5,838	5	19.4	- 6.6	6,511	40
Warrick	4,324	70	24.7	22.6	6,616	36
Washington	4,005	79	8.3	13.2	4,910	87
Wayne	4,748	55	9.8	20.9	6,304	52
Wells	5,431	18	9.8	25.8	7,501	11
White	5,785	7	13.9	11.8	7,358	14
Whitley	5,216	28	7.3	26.2	7,068	22

*Source: Calculations based on data in *Survey of Current Business*, April 1975, p. 40; April 1977, p. 35; April 1979, p. 35.